

1978-6027

ORIGINAL LOG BOOK OF THE "FISH HAWK"

UNITED STATES FISH COMMISSION

STATION NUMBERS

yu, 1898

Numbers 1978 to 6027

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No.

51

1978

Date,

Nov 4 - 98

Time of day,

11.22 AM, Commencing abt.

Locality,

In Lakemont river

Exact position,

Bury nob. O, D, E.

Depth,

50 of water, 5 1/4 fathoms

Nature of bottom,

Rocks, gravelly

Dredging instrument used,

7 ft beam trawl

Direction of drift,

N. N. E. ; distance, 1/2 mile

Temperature of air,

61° Fah

therm. No.,

7397

"

of surface water,

"

"

at depth of

fathoms,

"

"

at bottom,

~~1.022~~ ~~1.022~~

Density at surface,

1.022

temp.,

11.8

" at depth of

fathoms,

"

"

at bottom,

1.022

"

11.2

Number of salinometer,

7104

Barometer reading,

30.47

State of sky,

Blue

Direction of wind,

D.

; force,

2

Rain,

no

Direction of surface current,

0

; force,

0

"

of bottom

; force,

Name of vessel,

U. S. F. C. S. Fish Hawk

Service to which attached,

Fish Commission

Name and rank of commanding officer,

Lt. Comdr

Name and position of observer,

J. H. Milligan

Pharmacist

- 1 skai - Ermacia
 ~ Mili flowers
 1 window pane "
 Microclonia fupicus
 1 young sea urchin
 Hydroid in front plentiful
 Cr.
 1 Blue crab
 small Anomura viridata few
 Latinea few
 E. pollicaris several
 Longicaepus
 Anomura - several
 Few pelia Mutica
 Crapidaula fornicata numerous
 " plana - common
 Bryozoa plentiful
 Dead shells of cycloturus
 Fulgar, Venus, Mytilus.
 Arfina, Myxina, Capridula
 Anomura, L. heros, Littorina
 Few dead Hali eggs
 Few tenophore
 Lepidodermis. Panopaea
 Balanus. Hydroids
 Scapharca

Trawler was hauled in from
3 1/2 to 9 1/2 fathoms

613

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. 52-1979
Date, Nov 4 - 98
Time of day, 11.50 am; of tide, 1/2 hour of ebb.
Locality, In Atlantic mid
Exact position, Bay no 8 300 yards
N x N of fort
Depth, 4 fath
Nature of bottom, Same as before
Dredging instrument used, 7 foot beam trawl
Direction of drift, N. N. E; distance, 5/8 mile
Temperature of air, 61° therm. No., 7397
" of surface water, "
" at depth of fathoms, "
" at bottom, "
Density at surface, 1.022 temp., 11.5°
" at depth of fathoms, "
" at bottom, 1.022 " 12.0°
Number of salinometer, 7104
Barometer reading, 30.45
State of sky, Blue
Direction of wind, S; force, 2
Rain, no
Direction of surface current, no perceptible
" of bottom " ; force,
Name of vessel, U.S.F.C.S. Fish Hawk
Service to which attached, Fish Commission
Name and rank of commanding officer, Lt. Comdr
R. G. Swenson, USNavy
Name and position of observer, J. H. H. H.
Thompson, Navy

NOTES RELATING TO STATION NO.

52 ✓

Practically the same as 51
with addition of 2 large *argyria*
1 egg string of *Sycty pms*
Less hydroid.
2 large 7 in *Itaris*. *Forbes*
Crausson
Mulinia
Exocoelopus
Paropneus

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. 53 1980
 Date, Nov. 27 1898
 Time of day, 8.30 pm; of tide, 3 hours of ebb
 Locality, Narragansett Bay
 Exact position, Outer Island Light
 N.E. x N. 75° 4 miles
 Depth, 7 fathoms
 Nature of bottom, Muddy
 Dredging instrument used, 7 fath beam trawl
 Direction of drift, D. 3/4 E.; distance, 5/8 mile
 Temperature of air, 56° 74° therm. No., 7397
 " of surface water, " "
 " at depth of fathoms, " "
 " at bottom, " "
 Density at surface, 1.021 + temp., 13.7°
 " at depth of fathoms, " "
 " at bottom, 1.022 + " 13.8°
 Number of salinometer, 7104
 Barometer reading, 30.40
 State of sky, Blue
 Direction of wind, D. W.; force, 3
 Rain, No
 Direction of surface current, D. x W.; force, 1 knot
 " of bottom " force,
 Name of vessel, U. S. F. C. S. Fish Hawk
 Service to which attached, Fish Commission
 Name and rank of commanding officer, Lt Comdr
 R. H. Saverus, USNavy
 Name and position of observer,
 J. H. Milligan
 J. H. Milligan, USNavy

About 10 bushel of very little.
 large Cancer irrorata. beautiful
 Miller flounder. few
 4 Lake Squirrel
 Skate. - Erinnacea. few,
 1 Window-pane
 1 P. Carolina
 1 Arbacia (urchin)
 a bushel very large Star. 8 in. In. In.
 The usual fauna of the mussel bed
 Lepidomolus, Patoparis.
 Pinnothera, a few dead shells
 Callista conruga, 1 blue crab,
 Beautiful cancer irroratus, mostly males
 Flais very broad, full & fat
 Lycotyphus

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *54 - 1981*
 Date, *Nov. 4 98*
 Time of day, *2:50* ; of tide, *3 1/2 hours of eb*
 Locality, *Narragansett Bay*
 Exact position, *Dutch Field Pt*
N x E 3/4 E. 1.87 miles away
 Depth, *7 1/4 fathoms*
 Nature of bottom, *Rckey.*
 Dredging instrument used, *7 foot beam trawl*
 Direction of drift, *S. 3/4 W.* ; distance, *1/2 mile*
 Temperature of air, *56 Fahr* therm. No.,
 " of surface water, "
 " at depth of fathoms, "
 " at bottom, "
 Density at surface, *1.021 +* temp., *12.8°*
 " at depth of fathoms, "
 " at bottom, *1.022* " *13.7°*
 Number of salinometer, *7104*
 Barometer reading, *30.40*
 State of sky, *Blue - hazy*
 Direction of wind, *S.W.* ; force, *3*
 Rain, *No*
 Direction of surface current, *Drift* ; force, *Skur*
 " of bottom " ; force,
 Name of vessel, *U.S.F.C.S. Fish Hawk*
 Service to which attached, *Fish Commission*
 Name and rank of commanding officer, *St. Comdr,*
R.S. Davenport, U.S. Navy,
 Name and position of observer,
R.M. Sullivan
Assistant. Wm.

- 1 Sculpin
 1 Skate Euryacea
 Several small hake
 few small flounders.
 * bushy mussels & shells.
 Quantity of kelp.
 Lepidosteus
 Capricornia plana & fornicata
~~Callinectes~~
 1 young sea robin
 Callista convexa, dead shell
 1 blue crab
 1 dog canin innovatus,
 1 young " borealis.
 1 Edotia innovatus
 10 Large flats 2 to 9 in
 1 purple " (?)
 1 green sea urchin
 Rev. Sygnathus, Curru
 young Buccinum
 1 Longicauda
 Gammarus donat
 young itake squint
 Parapenaeus
 Bryozoa Obelia
 Laminaria, by now in same
 nudibranch sp. (?) Gammarus.
 Spirobia, few small pieces ammocete
 clum.

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *55 - 1982*
 Date, *Nov 4 - 98*
 Time of day, *3.15 pm*; of tide, *4 hours of ebb*
 Locality, *Namafanatt Bay*
 Exact position, *Beaver Tail light.*
O. E x E 1/4 E 7.67 y north mag
 Depth, *9 1/2 fathoms*
 Nature of bottom, *Sandy*
 Dredging instrument used, *7 foot beam trawl*
 Direction of drift, *O. N. W.*; distance, *3/8 mile*
 Temperature of air, *55° Fahr* therm. No., *7397*
 " of surface water, " "
 " at depth of fathoms, " "
 " at bottom, " "
 Density at surface, *1.022* temp., *13.6°*
 " at depth of fathoms, " "
 " at bottom, *1.023* " *14°*
 Number of salinometer, *7104*
 Barometer reading, *30.40*
 State of sky, *Blue. hazy*
 Direction of wind, *O. N. W.*; force, *3*
 Rain, *No*
 Direction of surface current, *N. W.*; force, *1 knot*
 " of bottom " " force,
 Name of vessel, *U. S. F. C. S. Fish Hawk*
 Service to which attached, *Fish Commission*
 Name and rank of commanding officer, *St. Commr*
R. G. Sauerbrey USN
 Name and position of observer,
A. M. Gilliam
Pharmacist. USN

NOTES RELATING TO STATION NO.

55

- Several large squid
 3 Skate - *Stenacis* - 1 doubtful
 a few young *Canine borealis*
 *Qualitis* of *musculus* -
 a greatly - mud sized empty sea clam
 bored by drills
 1 *Stomatopoda* *flavescens*
 1 *Stomatopoda*
 1 young *sculpin*
 1 " *Rea robusta*
Pelagia *mutica*
E. Bernhardtia
Agropyrum *per-*
Linnaea *heros*
 Lot of Kelp -
 1 *lar* sea clam
 few crabs
Idotea *monomorpha*
Gammarus *ornatus*
 1 *jupe* *fish*
E. longicauda
 1 *Pandalus*
E. Anallipes
L. tricornutum
Tritia *heros*
 1 *multibranch*

No skin fish

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. *56 - 1983*
 Date. *Nov. 4th 1898*
 Time of day, *3.40 pm* ; of tide, *nearly low water*
 Locality, *Narragansett Bay*
 Exact position, *near the light*
N. E.
 Depth, *14³/₄ fath.*
 Nature of bottom, *Prickly & sandy*
 Dredging instrument used, *7 fms beam trawl*
 Direction of drift, *P. W.* ; distance, *3/4 mile*
 Temperature of air, *53°* therm. No., *7397*
 " of surface water, " *7397*
 " at depth of fathoms, " *7397*
 " at bottom, " *7397*
 Density at surface, *1.022* temp., *13°*
 " at depth of fathoms, " *13.3°*
 " at bottom, *1.022* *13.3°*
 Number of salinometer, *30-7104*
 Barometer reading, *30.48*
 State of sky, *Blue & hazy*
 Direction of wind, *P. W.* ; force, *3*
 Rain, *no*
 Direction of surface current, *P. W.* ; force, *3/4 knots*
 " of bottom " ; force, " *3/4 knots*
 Name of vessel, *U. S. Fish Comm. Hawk*
 Service to which attached, *Fish Commission*
 Name and rank of commanding officer, *W. H. Henshaw, Master*
 Name and position of observer, *W. H. Henshaw* *29*
Thompson, W. H.

NOTES RELATING TO STATION NO. 56

1 Silver hake (?)

Skate - *Gerrhonotus*

16 Sparrow hake

16 Winter flounder

2-4 spot "

flat young and others

" " silver hake

" pomadour

caliente

Few dead shells, 1. *Macoma*

Cyprina, *Urosalpinx*, *Tritia*, *Macoma*

Cyprina, *Urosalpinx*, *Tritia*, *Macoma*

Cantharus, large

3 Star fish *Forster* - 1 1/2" 3" 6"

About 50 maroon stars 1/2" to 3"

2 doz purple stars, varying in color from very pale to light red, dark red & purple

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. *57* — *1984*
 Date. *Nov 14 - 1898*
 Time of day, *4:30 pm*; of tide,
 Locality, *Near a small Bay*
 Exact position, *Castle Hill light*
E 1/2 N. 87 miles away
 Depth, *17 1/2 fathoms*
 Nature of bottom, *Rocks & mud*
 Dredging instrument used, *7 foot beam trawl*
 Direction of drift, *S. W. x E*; distance, *3/4 mile*
 Temperature of air, *51°* — therm. No. *7397*
 " of surface water, "
 " at depth of fathoms, "
 " at bottom, "
 Density at surface, *1.0214* temp., *17.5°*
 " at depth of fathoms, "
 " at bottom, *1.023* *13°*
 Number of salinometer, *7195*
 Barometer reading, *30.38*
 State of sky, *Blue haze*
 Direction of wind, *S. W.*; force, *3*
 Rain, *No*
 Direction of surface current, *S.*; force, *0*
 " of bottom " : force, "
 Name of vessel, *U. S. Fish Hawk*
 Service to which attached, *U. S. Commission*
 Name and rank of commanding officer, *Ensign*
R. S. Davenport, Master
 Name and position of observer, *A. M. Williams*
Providence, R. I.

NOTES RELATING TO STATION NO. 57

3 x skate - 1/10 mile
 several small flowers
 Agrostis
 few juncus subulatus ?
 Phacelia
 Labium

pieces of kelp with other algae
 E. Hollicornia few in
 d. leaves shells

1 - ~~the~~ cyprina islandica in
 a few dead shells

Part of shell of Succinea undata

E. Lycopodium littorea Callisoma

1 - 3 in plate - Forks -

1 - 5 in " purple, light brown color

3 narrow plate - 1 - 1 1/2 x 2 in

1 - E. B. schandus

Longicarpus numerous
 shell, purpurea lapidis
 Astarte undata

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No.

58 - 1985

Date,

Nov. 9th 1898

Time of day,

11.10 a.m. of tide. 1 1/2 h of flood

Locality,

Mt Hope Bay

Exact position,

Bridge Ferry L. H.

N. 1/2 S. 2.25, mag.

Depth,

4 1/2 fathoms

Nature of bottom,

Muddy -

Dredging instrument used,

Trawl beam trawl

Direction of drift,

N x W. : distance,

5/8 miles

Temperature of air,

58° Fahr

therm. No.,

7397

"

of surface water,

"

"

at depth of fathoms,

"

"

at bottom,

"

Density at surface,

1.019

temp.,

11.3°

"

at depth of

fathoms,

"

"

at bottom,

1.018

Surface 7049

Bottom 7104

12.7

Number of salinometer,

Barometer reading,

30 - 28

State of sky,

Blue - Cloudy & hazy

Direction of wind,

Calm ; force,

0

Rain,

None

Direction of surface current,

; force,

of bottom,

; force,

Name of vessel,

U. S. F. C. S. Fish Hawk

Service to which attached,

Fish Commission

Name and rank of commanding officer,

Lt. Comdr

R. B. Sampson, USN

Name and position of observer,

J. D. McAllister

Thompson

NOTES RELATING TO STATION NO. 58

Leptocarpus eggs.
Eupodichthys longicaudus
Cleidopoma, live & dead
Euploma, live & dead
Upogadus, live and dead
 1 skate (*Levinia*?)
Panopeus
Libinia
 soft shell - *Forbesia* ^{small}
Cancer, few
Petrolia - dead shell
Mulinex -
Murex
Callinectes *convexa* (live & dead)
Fornea
Stomatopoda
Pyrotypus - 1 live
 numerous dead shells.
Portia
 Claw of *agrella*.
Hydractinia
 Shell modiola *physiculus*

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. *59*Date. *Nov. 9th 1898*Time of day, *11.35*: of tide. *1 1/4 h of flood*Locality, *W. H. H. Bay*Exact position, *Bristol Ferry Pt. House*Depth, *1.75 miles mag*Nature of bottom, *Muddy with gravel*Dredging instrument used, *Foot beam trawl*Direction of drift, *N. x E. 1/4 N.*: distance. *1/4 mile*Temperature of air, *60° F*therm. No. *7397*

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, *1.019*temp. *11.5*

" at depth of fathoms, "

" at bottom, *1.021*Number of salinometer, *Surface 7049*Barometer reading, *30.24*State of sky, *Blue, Cloudy*Direction of wind, *S. W.*; force, *1*Rain, *No*

Direction of surface current, "

; force, "

" of bottom "

; force, "

Name of vessel, *U. S. F. C. S. Fish Hawk*Service to which attached, *U. S. Commission*Name and rank of commanding officer, *Lt. Comdr*Name and position of observer, *R. B. Sampson, USNA*Name and position of observer, *J. S. Mulligan*Name and position of observer, *Pharmacist, USNA*

NOTES RELATING TO STATION NO. 59

Capricornia formicata, live & dead
Serpula
Membranipora
 Aptych shells
Bryotrypa - few -
Crangon
Hypodactylus
Hydroids
Phaeopora
Clidropora
Porpora
E. Pollicaris
Mytilus deep shells
Capricornia flava live & dead
Scapharca
Pecten
E. Longicarpus
Neritopa
Littorina littorea
 Few Rock Eels (?)
Littorina angusta - dead shells
 About 100 Star fish *Forbesii* Br 758
 13 *Thomomys montani*
 5 *Microtus pennsylvanicus*
Canis montanus
Neroids

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No.

60 1907

Date,

Nov. 9th 1897

Time of day,

11.55

: of tide,

2 h. of flood

Locality,

Mt. Hope Bay

Exact position,

Pointe à la Poudre

N x S,

7.5 miles away.

Depth,

6 1/2 fathoms

Nature of bottom,

Mussel bed.

Dredging instrument used,

Jaw beam Trawl

Direction of drift,

S. by E.

: distance,

5 1/2 miles

Temperature of air,

62.0

therm. No.,

7397

"

of surface water,

"

at depth of

fathoms,

"

at bottom,

Density at surface,

1.019

temp.,

17.0

" at depth of

fathoms,

" at bottom,

1.020 +

13.0

Number of salinometer,

Surface 7049

Bottom 7104

Barometer reading,

30.43

State of sky,

Blue, light clouds

Direction of wind,

S. W.

; force,

1

Rain,

no

Direction of surface current,

; force,

"

of bottom

"

; force,

Name of vessel,

U. S. F. C. Fish Hawk

Service to which attached,

Fish Commission

Name and rank of commanding officer,

Lt. Comdr

Name and position of observer,

R. L. Sargent

Name and position of observer,

J. H. Sargent

Name and position of observer,

J. H. Sargent

Name and position of observer,

J. H. Sargent

NOTES RELATING TO STATION NO. 60

8 *Borcher mytilus*.

2 *Mytilus* *flavescens*

2 *Mytilus* *lanceus*

+ 100 *Asterias forbesii* nearly all
large ones broken, a few 3 to 4 in
few others

Eggs strong yellowish

Several *Chamaelea*, rather
short shelled

2 *R. viridis*

Lepidodonta, *Crepidula fornicata*

Panopaea, several large *Cantharus*
inornatus, few *Orangina*, *Tritia*

Many *Mytilus* & *Mytilus* shells

Rock white, 1 fragment *Mytilus* *lanceus*

*Found captured, was not counted
and to be taken over again*

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. *61* *1988*
Date, *Nov. 9th 1898*
Time of day, *1:25 pm*; of tide, *3 1/2 h. of flood*
Locality,
Exact position,
Depth, *14 3/4*
Nature of bottom,
Dredging instrument used, *7 foot beam trawl*
Direction of drift, ; distance,
Temperature of air, *60* therm. No.,
" of surface water, "
" at depth of fathoms, "
" at bottom, "
Density at surface, *1.0207* temp., *17.5*
" at depth of fathoms, "
" at bottom, *1.020* *12*
Number of salinometer, *7029*
Barometer reading, *30.20*
State of sky, *Clear blue*
Direction of wind, *N. W.*; force, *1/2*
Rain, *no*
Direction of surface current, ; force,
" of bottom ; force,
Name of vessel, *U.S.F.C. Fish Hawk*
Service to which attached, *Fish Commission*
Name and rank of commanding officer, *Lt. Comdr.*
R. D. McFarlane, U.S.N.
Name and position of observer, *J. H. Hylan*
Harvard Univ.

NOTES RELATING TO STATION NO.

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RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. *61* *1989*
 Date, *Nov. 9*
 Time of day, *4 pm* : of tide, *4 hrs. of flood*
 Locality, *Mr. Hope Bay*
 Exact position, *Pointe à Pitre, France*
N.E. x W., 50 miles away
 Depth, *15 fathoms*
 Nature of bottom, *Sandy*
 Dredging instrument used, *Flat beam trawl*
 Direction of drift, *N.W. x W.* ; distance, *1/2 miles*
 Temperature of air, *62* therm. No., *7397*
 " of surface water, "
 " at depth of fathoms, "
 " at bottom, "
 Density at surface, *1.021* temp., *11.9*
 " at depth of fathoms, "
 " at bottom, *1.021* " *13.6*
 Number of salinometer, *30.20*
 Barometer reading, *30.20*
 State of sky, *Clear blue*
 Direction of wind, *N.W.* ; force, *1/2*
 Rain, *No*
 Direction of surface current, : force,
 " of bottom : force,
 Name of vessel, *U.S.F.C. V. Fish Hawk*
 Service to which attached, *U.S. Commission*
 Name and rank of commanding officer, *Cy. Comdr.*
R. G. Carpenter, U.S.N.
 Name and position of observer, *J. D. Helleman*
Pharmacist, U.S.N.

NOTES RELATING TO STATION NO. 61

- Cancer* *irrorata* few
 a few *Mytilus* *edulis*
 1 *Callinectes*
 Few *Panopeus*
 Few *Callinectes* *noronensis*
Lepidomastus
Fritia
Anachis
 Scaps of *Chelonia*
Hydrobia ?
Hydrobia *ulmaria*
 Star fish
 1 *Brittle Star*
 5 *Forbesia* 1-2 in 3-4 in
 1 *Corbula*
 Few *gorg* common here
 1 *Silene* *lancea* (?)
 1 *Laminaria*

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. *62 - 998*
 Date. *Nov 9th 1898*
 Time of day. *7:40* : of tide. *4³/₄ h of flood*
 Locality, *Narragansett Bay*
 Exact position, *1/2 mi. S. of Island Ot. ship.*
N. 17³/₄ E. 25 mile mag.
 Depth, *15 fathoms*
 Nature of bottom, *Shelly*
 Dredging instrument used, *5 ft beam trawl*
 Direction of drift, *S. 1/2 E.*; distance, *1/2 mile*
 Temperature of air, *60* — therm. No. *9397*
 " of surface water, —
 " at depth of — fathoms, —
 " at bottom, —
 Density at surface, *1.020* temp., *12*
 " at depth of — fathoms, —
 " at bottom, *1.021* — *14.1*
 Number of salinometer, *7104*
 Barometer reading, *30.19*
 State of sky, *Clear blue - light clouds*
 Direction of wind, *N. W.*; force, *1/2*
 Rain, *No*
 Direction of surface current, — : force,
 " of bottom — : force,
 Name of vessel, *U. S. F. C. S. Fish Hawk*
 Service to which attached, *Fish Commission*
 Name and rank of commanding officer, *Lt. Comdr.*
R. W. Sawdust Monahan
 Name and position of observer,
J. H. McGowan
Pharmacist

NOTES RELATING TO STATION NO. 62

1928 Astoria, Oregon 4 miles
 Squid here
 Eels.
 Ardia
 Mytilus
 Pecten
 Chama.
 Pecten crinaceus
 Pecten maculatus
 Callinectes
 Libinia
 Cancer innovatus.
 Corbula.
 Nerita
 Caprellid. flava.
 E. Pollicaris.
 Metridium

RECORD OF DREDGING, *1898* TEMPERATURE AND DENSITY.

Station No. *63 - 1991*
 Date, *Nov 12 1898*
 Time of day, *10:20* : of tide, *between ebb & full*
 Locality, *Between Chula Vista & East Side*
 Exact position, *Section near light house*
N. x N. 1/4 N. 1.37 miles mag.
 Depth, *8 fathoms*
 Nature of bottom, *Rocky*
 Dredging instrument used, *Dredge*
 Direction of drift, *N x W* : distance, *1/2 mile*
 Temperature of air, *58° Fahr* therm. No., *7397*
 " of surface water, " "
 " at depth of fathoms, " "
 " at bottom, " "
 Density at surface, *1.023 +* temp., *11.4° C.*
 " at depth of fathoms, " "
 " at bottom, *1.023* " *10.8°*
 Number of salinometer, *7514*
 Barometer reading, *30.25*
 State of sky, *Blue*
 Direction of wind, *N. N. W.* ; force, *2*
 Rain, *No*
 Direction of surface current, *No perceptible*
 " of bottom " : force, "
 Name of vessel, *H. S. F. C. Fish Hawk*
 Service to which attached, *Fish Commission*
 Name and rank of commanding officer, *Lt. Comdr*
P. B. Saunders
 Name and position of observer, *J. H. Killam*
Thos. M. Mearns

NOTES RELATING TO STATION NO. 63

Small timber bridge on
a stream in inner harbor
of Newport Commercial wharf
Bridge was torn by
waves and lost during
this storm.

Very rocky bottom, Drift
cangha & torn

643

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. 644 - 1992
Date, Nov. 12, 1898
Time of day, 10.35 ; of tide, 3 hours of ebb
Locality, ~~Porter~~ Mar. Schuyler Ledge
Exact position, Section 4 pr. Right
N.E. & E. 3/4 E. 1.25 miles mag.
Depth, 11 fathoms
Nature of bottom, Rocky & sandy
Dredging instrument used, Dredge
Direction of drift, S.W. 1/4 W. ; distance, 5/8 mile
Temperature of air, 38° Fahr. therm. No., 7397
" of surface water, " "
" at depth of fathoms, " "
" at bottom, " "
Density at surface, 1.023 temp., 11.8° C
" at depth of fathoms, " "
" at bottom, 1.023 " 15.2° C
Number of salinometer, 7104
Barometer reading, 30.25
State of sky, 7 Blue
Direction of wind, N.W. 1/4 W. ; force, 3
Rain, No
Direction of surface current, No perceptible
" of bottom " " force, "
Name of vessel, U.S.F.C. Fish Hawk
Service to which attached, Fish Commission
Name and rank of commanding officer, St. Andrew
R. B. Sawyers Jr. Master
Name and position of observer, J. W. McAllister
Provisioner. U.S.N.

NOTES RELATING TO STATION NO. 104

Muddy sand.
Numerous anthropods & tubs
few Annelids.
Orbicular Castanea small.
Diatoms sp.
Some small pond shells
E. Empicarpus
Fritia
Mactra shells small
1 small Cardium pinnulatum
1 L. Regalina
1 Eragma
1 Pecten isopod
1 Anolis
A few broken shells Mytilus etc

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. *65 - 1923*
 Date. *Nov. 17 1898*
 Time of day, *11 am*; of tide, *5th of ebb*
 Locality, *Mary of Schuyler Ridge*
 Exact position, *Monmouth Point Light*
N. X E. 3/4 E. 75 of mile mag.
 Depth, *9 or 10 fathoms*
 Nature of bottom, *Rocky sandy*
 Dredging instrument used, *Dredge*
 Direction of drift, *N X N. 1/4 N.*; distance, *1/2 mile*
 Temperature of air, *38° Fah* therm. No., *7297*
 " of surface water, ..
 " at depth of .. fathoms, ..
 " at bottom, ..
 Density at surface, *1.023* temp., *11.3°*
 " at depth of .. fathoms, ..
 " at bottom, *1.023 +* " *17.1°*
 Number of salinometer, *710*
 Barometer reading, *30.23*
 State of sky, *Blue*
 Direction of wind, *N. N. W.*; force, *3*
 Rain, *no*
 Direction of surface current, *S X N.*; force, *1*
 " of bottom " force,
 Name of vessel, *U. S. F. C. S. Fish Hawk*
 Service to which attached, *Fish Commission*
 Name and rank of commanding officer, *Lt. Comdr. R. B. Lawrence U.S.N.*
 Name and position of observer, *J. H. Thompson*
Thompson, Wm.

Brook Bridge fauna

NOTES RELATING TO STATION NO. 65

Astarte Castanea

Umbrella

& Purple stars

Lepidaster

Goniopora with Helix of

Mytilus

Tridacna

See sand dollar small

Scaph. of sulph. sponge

Shells of astarte, caprella

Peripatus

Anacharis

Ensis armata

E. longicauda

Broken shells in gravel

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 66 — 1996
 Date, Nov, 4, 1898
 Time of day, 11.20 ; of tide, 5 1/2 h. of ebb.
 Locality, Mouth of Peakonnet River
 Exact position, Peakonnet from light
E 1/2 N. 75 mile map.
 Depth, 11 1/2 fathoms
 Nature of bottom, Rcky.
 Dredging instrument used, dredge
 Direction of drift, N x N ; distance, 3/4 mile
 Temperature of air, 38° Fahr , therm. No., 7347
 " of surface water, " "
 " at depth of fathoms, " "
 " at bottom, " "
 Density at surface, 1.023 temp., 11.9° C
 " at depth of fathoms, " "
 " at bottom, 1.023 " 11.2° C
 Number of salinometer, 7102
 Barometer reading, 30.73
 State of sky, Blue
 Direction of wind, N. W ; force, 3
 Rain, no
 Direction of surface current, O x W ; force, 1/8 knot
 " of bottom " ; force, "
 Name of vessel, U. S. F. C. V. Fish Hawk
 Service to which attached, U. S. Commission
 Name and rank of commanding officer, Dr. Comdr
E. H. Swenson, Master
 Name and position of observer, J. H. H. H. H.
Pharmacist, U. S. Navy

NOTES RELATING TO STATION NO.

66

Few scraps of chelonia

" " " " " "

E. Pithia

Scrap of distaplia

Distaplia

Cyclonema

Pyrosoma

Pyrosoma

Pyrosoma

Colpoda plana

Scrap of Ammonium pellucidum

Merista shell

For. For.

Q. Kienia

Martini

Myxos

Myxos

Young cancer break

Claw on

Amelipes

Few Amelids

Remains of terebrates

by lot .. etc. to stone

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. *67* *1995*
 Date, *Nov 14 1898*
 Time of day, *11.45*; of tide, *low water*
 Locality, *Mouth of Acamungot River*
 Exact position, *Acamungot Pt Light*
S. 1/2 E., *75* mile mag.
 Depth, *7 fathoms*
 Nature of bottom, *Rocky*
 Dredging instrument used, *7 ft beam trawl*
 Direction of drift, *N. N. W.*; distance, *3/8 mile*
 Temperature of air, *59° Fahr* therm. No., *7597*
 " of surface water, ..
 " at depth of fathoms, ..
 " at bottom, ..
 Density at surface, *1.023* temp., *10.8*
 " at depth of fathoms, ..
 " at bottom, *1.023 +* " *11*
 Number of salinometer, *7124*
 Barometer reading, *30.22*
 State of sky, *B. C.*
 Direction of wind, *N. E.*; force, *3*
 Rain, *no*
 Direction of surface current, *no current* force,
 " of bottom " force,
 Name of vessel, *U. S. Fish Hawk*
 Service to which attached, *Fish Commission*
 Name and rank of commanding officer, *St. Andrew*
A. G. Sawyer, USN
 Name and position of observer,
A. J. Gilligan
Pharmacist, USN

NOTES RELATING TO STATION NO.

67

3 *Eumacea*
 1/2 m. South of Lake
 1 *W. ruber* flower on
 1 *Yucca* against lake
Tortia 1
Metridium
Crasped. few
Cumula several
E. impunctata
Opisth.
Act. alga
 1 *Scaphura*
Phryganea
Int. Laccophilus
E. tuberculata
Int. Laccophilus - *Tortia* sp.

RECORD OF DREDGING.

TEMPERATURE AND DENSITY. ^{11.27}Station No. ~~643~~ 68 - 1996

Date, Nov. 12/1892

Time of day, 11.05

: of tide, 1/2 h of flood

Locality, East Side of Beatonnet River

Exact position, Beatonnet Pt Light

Depth, 0.3/4 fath

Nature of bottom, Rocky

Dredging instrument used, Trawl

Direction of drift, S. 81/2 E

: distance, 1/2 mile

Temperature of air, 40° Fahr

therm. No., 797

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.022

temp, 11.0°

" at depth of fathoms, "

" at bottom, 1.0235

11.3°

Number of salinometer, 7104

Barometer reading, 30.72

State of sky, B

Direction of wind, N E

; force, 2

Rain, No

Direction of surface current, No perceptible

: force, "

" of bottom "

: force, "

Name of vessel, U. S. F. C. T. Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, Dr Ensign

R. E. Savenport, USN

Name and position of observer, J. H. H. H. H.

Pharmacist, USN

NOTES RELATING TO STATION NO. 68

Red algae + Chondrus + Sargassum
 These with Rhodospira oblonga
 Laminaria
 7 R. lenticularis
 2 small cucurbit
 Few Echinomachium Nitidum
 " small Costella
 1 small Cladonia rubra
 2 small Coprinus
 Lichodermis albidum
 Few Tritia
 7 Balanus
 C. punctata
 Amphitrite ornata
 1 small species
 E. longicauda in (tittima)
 Anachis sp. few
 2 others
 1 small species
 Diastylis sp.

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. ~~599~~ 69 — 1997

Date, Nov 16, 1890

Time of day, 1.20

: of tide, 1 1/2 h of flood

Locality, On West side Raccoon River

Exact position, Raccoon Pt. Light

S. x E. 1/4 E

2.75 miles up

Depth, 5 fathoms

Nature of bottom, Hard

Dredging instrument used, Dredge

Direction of drift, S. x E. 1/4 E.

: distance, 1/2 mile

Temperature of air, 62 Fahr

therm. No., 7

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.023

temp., 10.8° C

" at depth of fathoms, "

" at bottom, 1.023

11.0° C

Number of salinometer, 7100

Barometer reading, 30.72

State of sky, Blue

Direction of wind, N. W.

; force, 2

Rain, no

Direction of surface current, N.

; force, 1/3

" of bottom, "

; force, "

Name of vessel, U. S. F. C. V. Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, Lt. Comdr

Name and position of observer, R. G. Sargent

Name and position of observer, R. G. Sargent

NOTES RELATING TO STATION NO.

69

L. punctata
Funaria & *Hollaria*
Egg string of *Myiophila*
Hammonia
Fritia
L. longicauda
Cladophora
Pseudocladia
Curculionidae shell of
L. punctata
Melampus *funaria*
Dromia sp.

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. *70 - 1998*Date, *Nov. 17, 1898*Time of day, *3:30*: of tide, *1/2, 53 m of flood*Locality, *West Side Sacramento River*Exact position, *Sacramento Pt Light*S. & E. *1/4 E**2.37 miles away*Depth, *6 1/2 fath.*Nature of bottom, *fine sand*Dredging instrument used, *dredge*Direction of drift, *S.*: distance, *1/2 mile*Temperature of air, *44° Fahr*therm. No. *7397*

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, *1.023*temp., *10.8°*

" at depth of fathoms, "

" at bottom, *11.0°*Number of salinometer, *7104*Barometer reading, *30.25*State of sky, *blue*Direction of wind, *N. W.*; force, *✓*Rain, *no*Direction of surface current, *W*; force, *1/3 knot*

of bottom, "

: force, "

Name of vessel, *U.S.F.C. Fish Hawk*Service to which attached, *Fish Commission*Name and rank of commanding officer, *Dr. Cooper*Name and position of observer, *R. G. Davenport US Navy**J. W. Morgan*
Thomson's Army

NOTES RELATING TO STATION NO. 70

L. Heros

Number of small shells

mastrus

Kelp - Rock weed

Spinobus

Chironomus

gray canes novata

Capitula plana sformata

shell of scud

L. tenebrosa B

Phryza

Fritia

Astache Castanea

Antropod feet

Cyrtopod feet

Barmanus

Chironomus

Few Pinchus spines

~~Capitula plana sformata~~

Few isopods

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *712-90/999*
 Date, *Nov 12-90*
 Time of day, *1:45*; of tide, *3h of flood*
 Locality, *West side Sacramento River*
 Exact position, *Upstream for Light*
R. E. 1/2 mi. 2 miles mag
 Depth, *9 1/2 fath.*
 Nature of bottom, *Sand & shell*
 Dredging instrument used, *Dredge*
 Direction of drift, *S. W.*; distance, *1/4 mile*
 Temperature of air, *42° Fahr* therm. No., *7397*
 " of surface water, " "
 " at depth of fathoms, " "
 " at bottom, " "
 Density at surface, *1.023* temp., *117°*
 " at depth of fathoms, " "
 " at bottom, *1.023+* " *12°*
 Number of salinometer, *7104*
 Barometer reading, *30.19*
 State of sky, *Blue*
 Direction of wind, *N. W.*; force, *3*
 Rain, *no*
 Direction of surface current, *N. E.*; force, *1/2 knot*
 " of bottom " ; force, "
 Name of vessel, *U. S. Fish Com.*
 Service to which attached, *Fish Com.*
 Name and rank of commanding officer, *Wm. S. ...*
 Name and position of observer, *John ...*

NOTES RELATING TO STATION NO. 71

Boatman shelling caprellids &
 Callinectes &
 Portunus &
 Lingulid &
 Tharionia

1. sorted over
- L. Linpagan
- and Scapho
- Penis of sand Spongia
- Murchie
- Kelp, red algae
- Chironomid
- Scapho & shells
- Spinalgia
- 1 young common murex

The series number remained,
& new series changed to
6000

617

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

$\frac{71.37}{2.23}$

Station No.

Date,

Time of day,

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift,

Temperature of air,

" of surface water,

" at depth of fathoms,

" at bottom,

Density at surface,

" at depth of fathoms,

" at bottom,

Number of salinometer,

Barometer reading,

State of sky,

Direction of wind, ; force,

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel,

Service to which attached,

Name and rank of commanding officer,

Name and position of observer,

NOTES RELATING TO STATION NO. 72

Spirorbis

✓ *Paraploca* star

Few *Corbula* small

✓ *Anthracinus*

✓ *Cyclonoidia* small lot

✓ *Mytilus* common

Crinella flaudula (?)

Orthis

Anchisa

✓ *Longicarpus*

Cyclonoidia borealis small

Fine sand shells exposed

Red Algae

Few small *Ammonia*

Macla

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

6008

Station No. 73 - 2001 11.27
7.28

Date, Nov. 29

Time of day, 4.75 : of tide, 2³/₄ h of flood

Locality, Off Satchuwer Beach

Exact position, Beacon Pt. Light

S. E. - 3.75 miles long

Depth, 5 1/2 fathoms

Nature of bottom, Sandy gravel

Dredging instrument used, 7 ft beam trawl

Direction of drift, N. N. W.; distance, 1/2 mile

Temperature of air, 44 Fahr therm. No., 2197

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.023 temp., 11.0°C

" at depth of fathoms, "

" at bottom, 1.023 + " 11.1°C

Number of salinometer, 7104

Barometer reading, 30.20

State of sky, 1/2 day

Direction of wind, N. N. W.; force, 3

Rain, No

Direction of surface current, No current force, "

" of bottom force, "

Name of vessel, U. S. F. C. S. Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, Lt. Comm.
R. M. Stearns, USNavy

Name and position of observer, Pharmacia
Pharmacia

- 3 sponges like
 1 small flammula
 1 small spongia
 1 female latrina and eggs
 1 small balance
 Algae
 Rhizaria
 Spongia
 1 young spongia (?)
 Adactylis irrorata
 Spongia
 Spongia formosa
 Small anthipoda numerous
 Corallina
 A few shells of moderate size
 Murex
 Murex (?)
 Crustacean - numerous
 Spongia
 Spongia carnea
 Much a lot of Algae
 Spongia
 E. longipes in tortis shell
 1 small spongia like
 1 small fish
 Mammalia
 E. tenebrosa (?)

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

6002

Station No. 74 - 2002 200
11.37
3.01

Date, Nov. 17 - 98

Time of day, 4:40 ; of tide, 3 h. of flood

Locality, Off Eastern Point

Exact position, Danvers Point Light

N. W. x W. 1/4 W. - 3.50 miles N. W.

Depth, 8 fathoms

Nature of bottom, shells

Dredging instrument used, 7 foot beam trawl

Direction of drift, N. x W. ; distance, 1/4 mile

Temperature of air, 45° Fahr therm. No., 7297

" of surface water, ..

" at depth of .. fathoms, ..

" at bottom, ..

Density at surface, 1.023 temp., 11.8°

" at depth of .. fathoms, ..

" at bottom, 1.020 " 11.7°

Number of salinometer, 7104

Barometer reading, 30.20

State of sky, blue

Direction of wind, N. W. ; force, 3

Rain, no

Direction of surface current, no perceptible ; force, ..

" of bottom " ; force, ..

Name of vessel, U. S. F. C. T. Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, Ch. Comdr.

R. L. O'Connor, Warrant

Name and position of observer, W. H. Hefley

Assistant Surgeon

NOTES RELATING TO STATION NO. 74

- 5 *Sorinaria*
 1 *P. Carolini*
 1 *Polanus*
 Common *For.*
 Small quantity *See. weed.*
 1 *Polanus* *Yunnan*
 1 *E. longicauda*
 1 *E. Pollicaris*
 1 *Chen. inornata* small
 1 *Thunbergia*
 1 *Leonhardtia*
 4 *agrostis* *heta*
 1 *Juncea* *plumida*
 2 *truncata*
 7 *Pilea* *Martii*
 1 *Adiantum* *sp.*
 1 *Gonolobus*
 1 *Hypoxanthus*

6003

645

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. *75 - 3003* *17.37*
 Date, *Nov 14 98* *3.45*
 Time of day, *3* : of tide, *Sh. 1/2 of flood*
 Locality, *Between Eastern & Ocean Points*
 Exact position, *Seakons Point Light*
S. E. x E. 1/2 E. 4 1/2 miles away
 Depth, *3 1/2 fathoms*
 Nature of bottom, *Thm.*
 Dredging instrument used, *3 ft beam trawl*
 Direction of drift, *W. S. 1/2 S* distance, *1/2 mile*
 Temperature of air, *45* Fahr therm. No., *7397*
 " of surface water, ..
 " at depth of fathoms, ..
 " at bottom, ..
 Density at surface, *1.023* temp., *11.8*
 " at depth of fathoms, ..
 " at bottom, *1.023* .. *11.6*
 Number of salinometer, *7104*
 Barometer reading, *30.21*
 State of sky, *Clear*
 Direction of wind, *N. W.* ; force, *3*
 Rain, *no*
 Direction of surface current, *no current* ; force, ..
 " of bottom, .. ; force, ..
 Name of vessel, *U.S.F.C.S. Fish Hawk*
 Service to which attached, *Fish Commission*
 Name and rank of commanding officer, *Lt. Comm.*
R. G. Thompson
 Name and position of observer, *J. W. Sullivan*
Pharmacist Navy

NOTES RELATING TO STATION NO. 75

Low mud bottom

E. Pollicaris

Caprellidae formica

Balanus

E. longicauda

1. Murchisonia floridana

3. Poreia spinosa

1. Poreia spinosa

1. Poreia spinosa

Hyas

1. Hyas

Alpheidae

Uca

Caprellidae

Caprellidae

Hyas

Caprellidae

Hyas

Hyas

Hyas

Hyas

6004

$$\begin{array}{r} 7.14 \\ 16.30 \\ \hline 2.44 \end{array}$$

RECORD OF DREDGING,

TEMPERATURE AND DENSITY

Station No. *76 - 2006*
 Date, *Nov. 12 1898*
 Time of day, *10.30 am*; of tide, *2 1/2 ebb of abt.*
 Locality, *Near Butch Lake Harbor*
 Exact position, *Butch Lake Harbor Light*
N 1/2 E 1- mile mag.
 Depth, *7 to 10 fathoms*
 Nature of bottom, *Rocky, Murel bed*
 Dredging instrument used, *7 ft beam trawl*
 Direction of drift, *SE*; distance, *1/2 mile*
 Temperature of air, *57° Fahr.*; therm. No., *7592*
 " of surface water, *57°*
 " at depth of *10* fathoms, *57°*
 " at bottom, *57°*
 Density at surface, *1.022*; temp., *11.2°*
 " at depth of *10* fathoms, *11.2°*
 " at bottom, *1.022*; *11.2°*
 Number of salinometer,
 Barometer reading, *29.74*
 State of sky, *overcast, haze*
 Direction of wind, *SE*; force, *very light*
 Rain, *No*
 Direction of surface current, *SE*; force, *1 knot*
 " of bottom " ; force,
 Name of vessel, *U.S.F.C. Fish Hawk*
 Service to which attached, *Fish Commission*
 Name and rank of commanding officer, *LT Comdr*
R. S. Davenport USNavy
 Name and position of observer,
J. D. Sullivan
Thomas A. Brown

NOTES RELATING TO STATION NO. 76

Shore a bunch of *Mytilus*

2 *Sonnardia*

3 *Stake - ogusmil*
Lepidomitus

Pompeus murina

Copridula flava

6 *Stella pinnata*

1 *Stella pinnata*

2 Half-cupped brown dove

Pelia murina few

2 Small *astacia*

1 " *Stella pinnata*

Membranipora

Few dead shells of *Stella pinnata*

" " *Stella pinnata*

Petrobia

Conchus several

1 small sea urchin

53 *Forsteria* large 3 ft. 7 in

1 *Pandalus*

Stella

Craugon few

Oyster crab

Asterias in tube (Gull 18)

Few *Anchids*.

6005

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 77-2005
Date. Nov. 14. 98
Time of day. 10.55 am ; of tide. 3¹/₂ to 4⁰/₂ of ebb
Locality, near Dutch Island Harbor
Exact position, Sater Island Harbor Light
E & R. .25 mile away.
Depth, 9 1/2 fathoms
Nature of bottom, Mixed bed, muddy
Dredging instrument used, 7 foot beam trawl
Direction of drift, S. ; distance, 3/8 mile
Temperature of air, 57° F ; therm. No. 7399
" " of surface water, " "
" " at depth of fathoms, " "
" " at bottom, " "
Density at surface, 1.022 ; temp., 10.8°
" " at depth of fathoms, " "
" " at bottom, 1.022 + ; 11.0°
Number of salinometer, 7104
Barometer reading, 29.70
State of sky, overcast
Direction of wind, O. W. ; force, light
Rain, No.
Direction of surface current, O. O. W. ; force, 1 knot
" " of bottom " " ; force, " "
Name of vessel, U. S. F. C. S. Fish Hawk
Service to which attached, Fish Commission
Name and rank of commanding officer, It. Comdr
R. S. Davenport, USN
Name and position of observer, W. H. H. H.
Harbour Master, Boston

13 *Arch. mytilus*

Artisia very numerous

Rana Torosae

12 blue crabs

1 *Toponia*

Pipe fish.

Cancer ~~novaeboracae~~ ^{septuaginta} ~~novaeboracae~~ ^{several} female with eggs

Antrella

Cycloj. lus

Pelca

Panopeus

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

11, 23

Station No. 78 — 2006 — 214
4.09

Date, Nov. 11 - 98

Time of day, 11, 23 ; of tide, 2 h. of ebb.

Locality, Near Dutch Tide Harbor

Exact position, Dutch Tide Harbor Light
S. by E. .87 of mile mag.

Depth, 7 1/2 fathoms

Nature of bottom, Rocky

Dredging instrument used, 7 foot beam trawl

Direction of drift, S. ; distance, 1/4 mile

Temperature of air, 52° Fahr. therm. No., 7397

" of surface water, ..

" at depth of .. fathoms. ..

" at bottom, ..

Density at surface, 1.0216 temp., 10.6°

" at depth of .. fathoms. ..

" at bottom, 1.072 " 10.8°

Number of salinometer, 7104

Barometer reading, 29.72

State of sky, Overcast

Direction of wind, S. W. ; force, light

Rain, No

Direction of surface current, S. S. W. ; force, 1 knot

" of bottom .. ; force, ..

Name of vessel, U. S. F. C. S. Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, LT. Comdr
R. B. Sampson, USN

Name and position of observer, J. D. H. H. H.
Pharmacist

NOTES RELATING TO STATION NO. 78

1 small nereida *Lepidocrotus*
 2 Blue Crab *Callinectes sapidus* *flavus*
 2 King Crab *Callinectes* *flavus*
 Few *Raja* *erinnacea*
Tridacna *flavus*
 Numerous aquatic insects. *Anachis*
Balanus: few. *E. longicauda* *flavus*
Cyrtopoda, *E. longicauda* *flavus*
 1 *Caudofo.* *Rhynchotrema*, (?)
 Few *Caudofo.* *prostrata*
Microciona, several pieces
Asteria ~~*flavus*~~
 numerous *Cracina* *Hydrobia*
Hydrobia *ulmaria*, 1 common
 3 *Hydrobia* *flavus*
 2 *Hydrobia* *flavus* *Okla*
 young *habea* *Pala*
Donax 11 *spines*
 Quantity of Kelp & *Chondrus*
 Chained sponge (*Amphimedusa* *flavus*)
 3 small *lobata*
 Few shells of *Terres*! *Purcellia*
Comma *scutiger*
Caprellidae *flavus*
Anomia - *Mystic* *flavus*
 few young *ulmaria* *flavus*
Anomia *labra* - 1 *Pala* *flavus*
 Few *larva* *amphipoda*
Forbesia (*ulmaria*) 2 *flavus* 11 *flavus*

6007

643

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 79 - 2007

Date, April 15 - 1892

Time of day, 11:45 ; of tide, 4³/₄ h of ebb.

Locality, Narragansett Bay.

Exact position, South End Light
P. S. W. 1.75 mile N.W.Depth, 4⁶/₁₀ 6 fathoms

Nature of bottom, Rocky & shelly, mounded

Dredging instrument used, 7 foot beam trawl

Direction of drift, S. S. W. ; distance, 3/8 mile

Temperature of air, 57° F. therm. No. 7297

" of surface water.

" at depth of fathoms,

" at bottom,

Density at surface, 1.0222 temp., 10.2°

" at depth of fathoms,

" at bottom, 1.0222 .. 10.5°

Number of salinometer, 7100

Barometer reading, 29.67

State of sky, Overcast

Direction of wind, S. W. ; force, 7

Rain, No

Direction of surface current, S. S. W. ; force, 1/2 knot

" of bottom " ; force,

Name of vessel, U. S. F. C. S. Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, Dr. Comdr

R. S. Davenport, USN

Name and position of observer, W. H. Canning

Chambers, USN

NOTES RELATING TO STATION NO. 79

1-18 *Spongia aerolifera*

24 *Spongia latic*

5 *Mucos flammula*

1 *Pyridon sora*

1 *Labrus*

~~*Syctopus shell*~~

shell of *Mystus*

stricola

1 *Syctopus lvi*

Tubus

Capitula formosa

Cranium

Pygospio

Microciona

Althia Forbesii 1 small specimen

Tenaculum acule 1 spec.

Cap. puma

1 *Aspidopora* spec.

Eumecurus

2 *Antiparus in fides*

Brachis

Nerita small

Pandora

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

2008
1928
80

Station No. 80 — 2008

Date, Nov. 10, 1928

Time of day, 1 pm ; of tide, Low water

Locality, Hama-fauselt Bay

Exact position, Conamint H. L. Light
N E x E 1/4 E 2 1/2 miles away

Depth, 5 fathoms

Nature of bottom, Rocky

Dredging instrument used, 7 ft beam trawl

Direction of drift, S, x E, ; distance, 3/4 of mile

Temperature of air, 52° Fahr therm. No., 7397

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.021 temp., 10.5°

" at depth of fathoms, "

" at bottom, 1.021 + " 10.7°

Number of salinometer, 7104

Barometer reading, 29.64

State of sky, overcast

Direction of wind, N x South ; force, 11

Rain, no.

Direction of surface current, 0 ; force, 0

" of bottom, ; force,

Name of vessel, U.S. F.C.S. Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, Lt Comm'r
R. G. Sprague, USN

Name and position of observer, W. M. ...

NOTES RELATING TO STATION NO. 80

or *Hemirhamphus*

3 *Myndus* sp. 11

2 *Squilla* hirta - small

4 *Rana* *gambusia*

1 *Pygospio* *levis*

1 *Corbicula* *ovata* - small

Two forms of *Clonina* *calypso*
Parapala

Parapala

Escharella

Two shells of *Mytilus*

Orfina

Pygospio few dead

C. fornicata, *Forster*

Two *Forster*

Gammarus plentiful

Marbricarpus

with *Marbricarpus* (few)

Two *Lepidodermis*

Longicarpus

14 *Alia* *subvirens* 1 to 3 on

Hydrobatina

Small shells of *Mytilus*, *Forster*

Forster with *L. longicarpus*

One shell of *Chydorus*

1 young *pat.* (?), 1 1/2 in long

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. *81 — 2009*
 Date, *Nov. 14, 1898*
 Time of day, *1.35 pm*; of tide, *1/2 of flood*
 Locality, *Near a small bay*
 Exact position, *Continued N. by light*
10. E x N 1/2 N ~~*1 1/2 miles*~~
 Depth, *12 fathoms*
 Nature of bottom, *muddy*
 Dredging instrument used, *Trawl*
 Direction of drift, *S. by E.* distance, *3/8 mile*
 Temperature of air, *59°* therm. No., *7397*
 " of surface water, "
 " at depth of fathoms, "
 " at bottom, "
 Density at surface, *1.021* temp., *10.2*
 " at depth of fathoms, "
 " at bottom, *1.021 + 10.7*
 Number of salinometer, *7106*
 Barometer reading, *29.64*
 State of sky, *Blue cloudy*
 Direction of wind, *N.W.* : force, *2*
 Rain, *no*
 Direction of surface current, *0* : force, *0*
 " of bottom " : force, "
 Name of vessel, *U.S.F.C.S. Fish Hawk*
 Service to which attached, *Fish Commission*
 Name and rank of commanding officer, *R. G. Carpenter, Master*
 Name and position of observer, *J. M. McFarlane*

NOTES RELATING TO STATION NO. 81

Shells of nearly all mollusks common
 1 Blue Crab.

4 *Scapharca* small
 Eggs of *Scapharca* *Scapharca*
Scapharca - common

4 *Rara* *Sonina*
 14 *Modiolus* *flavus* *Mudcrab*
 9 *Modiolus* *flavus* *Crab*
Scapharca

~~Cap~~ *Chrysomela* *flava*
 1 *Chrysomela* *flava* in
Scapharca *scapharca* shell
 1 *Scapharca*

Small *Scapharca* *flava* 3
Scapharca - *Scapharca* shells
Scapharca

Shells of *Ammonia* *calluta* *tota*
Cap *Scapharca*
 1 *Scapharca* *flava*

Scapharca *flava*
Scapharca
 1 *Scapharca* *flava* *Scapharca*
Scapharca *flava*

Scapharca *flava*
Scapharca *flava* - *Scapharca*
Scapharca *flava* *Scapharca*

Scapharca
 Common *Scapharca* *flava* 1 in 10 to 50

6010

64.

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *52 2010*
 Date, *Nov. 14 - 98*
 Time of day, *2.05 pm* of tide, *1 h. of flood*
 Locality, *Massachusetts Bay*
 Exact position, *Quincy Light*
S. E 1/2 S 1.25 miles away.
 Depth, *3 3/4 fathoms*
 Nature of bottom, *Muddy*
 Dredging instrument used, *2 foot beam trawl*
 Direction of drift, *N x E* distance, *1/2 mile*
 Temperature of air, *52 Fahr* therm. No., *7397*
 " of surface water, "
 " at depth of fathoms, "
 " at bottom, "
 Density at surface, *1.020* temp., *10.0*
 " at depth of fathoms, "
 " at bottom, *1.021* " *10.1*
 Number of salinometer, *7104*
 Barometer reading, *29.84*
 State of sky, *Overcast*
 Direction of wind, *N.W.* ; force, "
 Rain, *No*
 Direction of surface current, *N.E.* ; force, *1/8 knot*
 " of bottom " ; force, "
 Name of vessel, *U. S. F. C. T. Fish Hawk*
 Service to which attached, *Fish Comm.*
 Name and rank of commanding officer, *Lt. Comm.*
A. G. Sargent, Jr.
 Name and position of observer, *W. H. Sargent*
Commander

NOTES RELATING TO STATION NO. 82

82

1 Blue Crab

1 Green Hermit Crab

+ Brown Crab

1 Small Hermit Crab, Parapetern

2 Litter, squirrel

3 Young squilla, Chirophora

Dead Cyprina shells

Cyprina fens - Dead - Cistocera

Callinectes crucea.

Pholus cortata.

Shells of very a. Cap. formate

Mytilus (Triton).

In Anelisa - cortia - Cistocera

~~Cap. fens~~ + Triton alive

C. formatei & C. flava alive -

few Hydroids - a small fish.

Small shells of l. heros

Cardium punctatum

nuclea. L. truncata

Anelisa, nuclea alive

Parapetern

~~Anelisa~~

120 Triton alive - small fish

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *83 - 2011*

Date. *Nov 12 - 98*

Time of day, *1:15 pm* of tide, *1 h. 20 m of flood*

Locality, *Narragansett Bay*

Exact position, *Cape Mudge N. of Light*
S. 3/4 E. 1.50 miles mag

Depth, *4 1/2 fathoms*

Nature of bottom, *muddy, shelly*

Dredging instrument used, *7 foot beam trawl*

Direction of drift, *N. 40° W. 3/4 mi.* *1/2 mile*

Temperature of air, *52° F.* therm. No., *7597*

.. of surface water, ..

.. at depth of .. fathoms, ..

.. at bottom, ..

Density at surface, *1.020 +* temp., *10.1° C*

.. at depth of .. fathoms, ..

.. at bottom, *1.0224*, *10.0° C*

Number of salinometer, *7104*

Barometer reading, *29.64*

State of sky, *Overcast*

Direction of wind, *N. E.* ; force, *2*

Rain, *No*

Direction of surface current, *N. E.* ; force, *1/4*

.. of bottom .. force, ..

Name of vessel, *U. S. F. C. S. Fish Hawk*

Service to which attached, *Fish Commission*

Name and rank of commanding officer, *Lt. Comdr*
R. W. Carpenter, USN

Name and position of observer, *J. H. ...*
Pharmacist, USN

4 Water flowers
 above 175 *Phacelia* *Fortensis* - 1 flower
 1 *Sagittaria* several young
 1 case of dry crab, av. with some other
 shells of *Callinectes* *canadensis*, *Yoldia*
Sycostegnum, *Clidocyphea*, *C. formicosa*
Muscula, *Musculina*, *Conus* *scabellus*
Littor *fortis*.
Chamaea, many shells
Euphorbia, *Obelia* on kelp
 1 *hemisphaera* - shells. *Ragois* *clausi*
Androsium *pinnulatum*

6012

RECORD OF DREDGING,
TEMPERATURE AND DENSITY.

Station No. 54 — 2012
Date, Nov. 14. 98
Time of day, 2 45 pm : of tide, 3/4 h of flood
Locality, Narragansett Bay
Exact position, Conanicut Pt. N. Light
S. of R. R. 2.5 miles N. W.
Depth, 4 1/2 fathoms
Nature of bottom, Muddy & shelly
Dredging instrument used, 7 foot beam trawl
Direction of drift, N. W. 1/4 E. distance, 1/2 mile
Temperature of air, 52° therm. No., 7297
" of surface water, "
" at depth of fathoms, "
" at bottom, "
Density at surface, 1.020 temp., 14°
" at depth of fathoms, "
" at bottom, 1.021 " 10°
Number of salinometer, 7104
Barometer reading, 29.63
State of sky, Partly cloudy
Direction of wind, N. W. : force, 3
Rain, No
Direction of surface current, N. E. : force, 1/2
" of bottom " : force, "
Name of vessel, U. S. Fish Hawk
Service to which attached, U. S. Fish Commission
Name and rank of commanding officer, Dr. Comdr.
R. L. Davenport, USN
Name and position of observer, R. L. Davenport

1 *Synnaia*

1 *Synnaia* lake

2 *Trinia* flowers

2 *Trinia* flowers

1 *Trinia* flowers

Two *Trinia* flowers

Rock cells, 3

1 *Trinia* flowers

Altho 150 *Trinia* flowers

Crangon, *Crangon*, *Trinia*

Protoglossus, *Panopterus*

Cisternella, *Euphonia*

2 *Trinia* flowers

Rock cells, *Trinia*

Palaeomonetes, *Trinia*

Same shells as in preceding bank

with exception of *Tadpole*

1 *Littoria*, *Strophomena*

1 *Archaeob.*

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

6013

Station No. 85 — 2013

Date, Nov. 14 98

Time of day, 3 pm : of tide, 2h of flood

Locality, Narragansett Bay

Exact position, Strawick Light

N. N. E. 2.50 miles mag

Depth, 4 1/2 fathoms

Nature of bottom, shelly & muddy

Dredging instrument used, 7 ft beam trawl

Direction of drift, N. N. W. 1/2 N ; distance, 3/8 mile

Temperature of air, 52° F. therm. No., 7390

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.020 temp., 10.0°

" at depth of fathoms, "

" at bottom, 1.020 + .. 9.8°

Number of salinometer, 7100

Barometer reading, 29.63

State of sky, overcast

Direction of wind, N. W. ; force, 3

Rain, no

Direction of surface current, N. E. ; force, 1/2

" of bottom " ; force "

Name of vessel, U. S. F. C. Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, Lt. Comdr

R. G. Davisport, USN

Name and position of observer, J. M. S. S. S.

St. Lawrence, USN

NOTES RELATING TO STATION NO. 85

6 17 mbr - floor

3 Cyprina

1 Hada squarilla

several Glycy squella

Crepidula & P. latimarginata

Eupileura, Potamocoris

Crepidula trilinea

and

shells of C. ferruginea collected

of the Potamocoris. common shells

Crepidula anomala

scaphanders. Fragments of P. costata

+ 80 plain tubes. 1 to 2 inch

a paper full full

few small tubes full

Rock etc.

Panopeus

Mulinia

few Amphipods

Antennas, full

? full of small full

small Amphipods

few May + June shells

6014

613

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 86 - 2014
 Date. Nov. 14, 98
 Time of day, 4 pm : of tide, 3 h of flood
 Locality, Narragansett Bay
 Exact position, Rose Island Light
 S & E, 1.75 miles away
 Depth, 12 1/2 fathoms
 Nature of bottom, 1 sand
 Dredging instrument used, 7 foot beam trawl
 Direction of drift, S. by E. distance, 1/2 mile
 Temperature of air, 48° Fahr therm. No., 7397
 " of surface water, ..
 " at depth of fathoms, ..
 " at bottom, ..
 Density at surface, 1.022 temp., 11.2 C
 " at depth of fathoms, ..
 " at bottom, 1.022 10.8
 Number of salinometer,
 Barometer reading, 29.65
 State of sky, Overcast
 Direction of wind, N. W. ; force, 4
 Rain, no
 Direction of surface current, N. E. ; force, 1/2
 " of bottom " ; force,
 Name of vessel, U. S. F. C. T. Albatross
 Service to which attached, Fish Commission
 Name and rank of commanding officer, Lt. Comdr.
 R. B. Barnard, USN
 Name and position of observer, J. D. Milligan

NOTES RELATING TO STATION NO.

[illegible]

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. *87 - 2015*
 Date, *Nov. 14 - 98*
 Time of day, *4:20 p.m.* : of tide, *3 1/4 hrs of flood*
 Locality, *Nearmouth of bay*
 Exact position, *Rose Island Light*
 Depth, *1/4 E - 75 y mile*
24 fathoms
 Nature of bottom, *hard*
 Dredging instrument used, *Hand beam trawl*
 Direction of drift, *P. W. X* : distance, *1/2 mile*
 Temperature of air, *48° Fahr* therm. No., *7397*
 " of surface water, " "
 " at depth of fathoms, " "
 " at bottom, " "
 Density at surface, *1.021* temp., *11°*
 " at depth of fathoms, " "
 " at bottom, *1.022* " *10.7*
 Number of salinometer, *7104*
 Barometer reading, *29.65*
 State of sky, *overcast*
 Direction of wind, *N. W.* ; force, *4*
 Rain, *no*
 Direction of surface current, *N. E.* : force, *1/2*
 " of bottom : force, "
 Name of vessel, *U. S. F. C. S. Fish Hawk*
 Service to which attached, *Fish Commission*
 Name and rank of commanding officer, *Lt. Comdr*
R. H. Thompson, USN
 Name and position of observer, *J. M. Wilson*
Thomson

NOTES RELATING TO STATION NO.

St Paul Bonanza

Monterey Redwood Lake

1. *W. rubra* flowers. Large

750p. Al. Grav.

E. Longfellow Journal

Small Group

В селѣ Калѣ арнаево

 $+ \frac{1}{2} \log \frac{1}{2}$

Callista 5. *perkinsi* true

shells. L. littorina

Palaeomonetes, Pecten

Prof. J. J. Owen, Worcester

Capitulum, Pannulus

Tricostata Probably common -

transverse, W_{\perp} -plane

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

6016

Station No. 88 - 2016

Date, Nov. 16. 98

Time of day, 4:45 p.m. 3 3/4 h. of flood

Locality, Narragansett Bay

Exact position, Rice Field Light

N. E. x N. 50 north mag.

Depth, 19 fathoms

Nature of bottom, Hard

Dredging instrument used, 7 foot beam trawl

Direction of drift, S x W. 1/4 W.; distance, 1/2 mile

Temperature of air, 46° Fahr therm. No., 7397

" of surface water, ..

" at depth of .. fathoms, ..

" at bottom, ..

Density at surface, 1.021 temp., 10.3°

" at depth of .. fathoms, ..

" at bottom, 1.021+ .. 10.6

Number of salinometer, 7104

Barometer reading, 29.65

State of sky, Overcast

Direction of wind, N. W.; force, 15

Rain, no

Direction of surface current, N. E.; force, 1/2

of bottom .. : force, ..

Name of vessel, U. S. F. C. Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, Lt. Comm.
E. S. Davenport

Name and position of observer, John H. ...
Thomson

NOTES RELATING TO STATION NO.

88

- Two forms of *Salp*
 1 *Eumacea*
 Red *paucidalis*
 " *glia*
Diaphosia hydroid
 1 *Asarte undata*
L. bicincta with *C. lucida*
 2 *young* *canes* (?) *torrida*
 Two *Crangon* *Tritia* shells
 Small *cruciatulum* shells.
Spurges (?)
 Young *hake* - *gymna*
L. litorea shells.
 1 *young* *of* *florida*
 1 *Crab*
 03 *Trid. plumosa* hydroid

Dredge & all connected with it
removed away before dredging.
Bottom may vary at this station
and for some distance in vicinity.
643
RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. *89 - 2017*
Date, *Nov. 15th 1898*
Time of day, *9.40 Am*; of tide, *4th of ebb.*
Locality, *Off Ocher Point.*
Exact position, *Seasconnet Pt light house
E & S. $\frac{3}{4}$ mile 4 miles away*
Depth, *8 fathoms*
Nature of bottom, *Very Rocky*
Dredging instrument used, *Dredge*
Direction of drift, *S. W. $\frac{1}{4}$ S.*; distance, *$\frac{3}{8}$ mile*
Temperature of air, *40°* therm. No., *7397*
" of surface water, "
" at depth of fathoms, "
" at bottom, "
Density at surface, *1.0237* temp., *14.3°*
" at depth of fathoms, "
" at bottom, *1.0244* " *11.3°*
Number of salinometer, *7194*
Barometer reading, *30.08*
State of sky, *Clear*
Direction of wind, *N. W.*; force, *3*
Rain, *No*
Direction of surface current, *0*; force, *0*
" of bottom " force,
Name of vessel, *U.S.F.C.S. Fish Hawk*
Service to which attached, *U.S. Commission*
Name and rank of commanding officer, *A. C. ...*
Name and position of observer, *J. H. ...*
Anderson

NOTES RELATING TO STATION NO. 89.

Drift carried away.
Bottom very rocky.

Some kelp and algae
Urtica, Potamogeton, and a
few clumps of green mudstone
algae, clinging to frame

Bottom very rocky, and dredge was
hauled sooner than usual in consequence.

643

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 90 - 2078
Date, Nov. 15 - 98
Time of day, 9:12 am : of tide, 1st 10th of ebb.
Locality, East of Port Antonio Reef.
Exact position, Port Antonio Reef S.W. ship.
~~St. Mark's~~ N. 1/2 E. 7.5 mile mark.
Depth, 10 fathoms.
Nature of bottom, Fine gravelly sand.
Dredging instrument used, Dredge.
Direction of drift, N. 4. W. ; distance, 7/8 mile.
Temperature of air, 40° Fahr. therm. No., 7397
" of surface water, "
" at depth of fathoms, "
" at bottom, "
Density at surface, 1.023 + temp., 17.0°
" at depth of fathoms, "
" at bottom, 1.024 " 11.3°
Number of salinometer, 7104
Barometer reading, 30.08
State of sky, B. c.
Direction of wind, N. W. ; force, 3
Rain, no
Direction of surface current, E ; force, 1/2 knots
" of bottom " : force, "
Name of vessel, U.S.F.C. Fish Hawk
Service to which attached, Fish Commission
Name and rank of commanding officer, Lt. Comdr.
R. B. Baranoff.
Name and position of observer, R. B. Baranoff

NOTES RELATING TO STATION NO.

90

L. truncata *trita*
 out to *Pygospio*
 1 small *Rhynchobolus* very
 few amphipods. - several
Lusina, *Ploca*, *Astarte* }
Cyclocardia } *G. dia* } *phila*
Crustaceans
Kelp on mud *most*
 few sand dollars small
 small + broken shells etc
Membranipora .

Bottom very rocky, and dredge
has taken up fragments of coral
648 *see it.* 6019

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. *91 - 2019*
Date. *Mar. 15 - 98*
Time of day. *9:25 AM* of tide. *1 1/2 to 20 m of ebb.*
Locality. *Bonaton's Reef*
Exact position. *Bonaton's Reef Lt Ship*
N x N. 1/2 W. 1.50 miles away
Depth, *12 fathoms*
Nature of bottom. *Hard granular bottom*
Dredging instrument used. *Dredge*
Direction of drift, *N. S. W.*; distance, *1/8 miles*
Temperature of air, *40° Fahr* therm. No., *7277*
" of surface water, "
" at depth of fathoms, "
" at bottom, "
Density at surface, *1.0237* temp., *14° C*
" at depth of fathoms, "
" at bottom, *1.0237* " *11.5° C*
Number of salinometer, *102*
Barometer reading, *30.08*
State of sky, *Blue*
Direction of wind, *N. W.*; force, *3*
Rain, *No*
Direction of surface current, *E*; force, *1/2*
" of bottom " " force, "
Name of vessel, *U. S. F. C. S. Fish Hawk*
Service to which attached. *Fish Commission*
Name and rank of commanding officer, *Ensign*
R. G. Sampson, USN
Name and position of observer, *Wm. H. ...*
Commander USN

NOTES RELATING TO STATION NO. 91

Red Algae. *Sporobolus*. common
Lepidodermis.

Ceramium

Gracilaria, small, plentiful

Astarte larv, few

Propeya. *Anachis*.

1 small common

1 up with *Stichia*

Is. Crum

Urosalpinx shell

E. *Anachis* ?

Gravel. - *Fucus*, etc.

6020

64

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *92* *2020*
 Date, *Mar 15 91*
 Time of day, *9.50* ; of tide, *1/2 low water*
 Locality, *Near Plover's Reef*
 Exact position, *Plover's Reef Wharf*
S. 71. x S. *0.50 mile away*
 Depth, *15 fathoms*
 Nature of bottom,
 Dredging instrument used, *dredge*
 Direction of drift, *N. W. 1/2 N.* distance, *5/8 mile*
 Temperature of air, *41°* therm. No., *7377*
 " of surface water, "
 " at depth of fathoms, "
 " at bottom, "
 Density at surface, *1.023 +* temp., *11.2°*
 " at depth of fathoms, "
 " at bottom, *1.023 +* " *11.2°*
 Number of salinometer, *7104*
 Barometer reading, *30.09*
 State of sky, *1st*
 Direction of wind, *N. E.* ; force, *2*
 Rain, *no*
 Direction of surface current, *N. E.* ; force, *1/2*
 " of bottom " ; force "
 Name of vessel, *U. S. Fish Com. Fish Hawk*
 Service to which attached, *Fish Commission*
 Name and rank of commanding officer, *Dr. Brewster*
R. S. Brewster
 Name and position of observer, *J. H. H. H.*
Pharmacist

NOTES RELATING TO STATION NO. 92

Helix cycloceras
 " very small same volume
Helix numerous
 Few small *Mytilus* - young
Corbicula pinnulata?
 Few *Crassostrea*.
Spisula *maculosa*
 " *antennata*
Littorina with *E. longicauda*
 " *hirsuta*
Hydrobia ulvae of above
 + *littoralis*
Urosalpinx few.
 Broken *Mytilus*
 Few small *Urosalpinx* & *Turbo*
Crinella *frankii*?
 1 small *Mytilus*?
G. formosa shells a few
Macoma few young
Corbula
Ruditapes *maculosa*?

6021

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 93 — 2021
Date, Nov. 15 - 1898
Time of day, 10.30 ^{am} of tide, 2 1/2 h. of ebb
Locality, Near Entrance to Maryland Bay
Exact position, Beacon Tail Light
S. E. 1.37 mile mag
Depth, 6 1/4 fathoms
Nature of bottom, Sandy mud
Dredging instrument used, Dredge
Direction of drift, S. x W.; distance, 1/4 mile
Temperature of air, 47° fah therm. No., 777
" of surface water, ..
" at depth of .. fathoms, ..
" at bottom, ..
Density at surface, 1.023 temp., 11.2°
" at depth of .. fathoms, ..
" at bottom, 1.023 .. 11.5°
Number of salinometer, 7104
Barometer reading, 30.12
State of sky, Blue
Direction of wind, N. W.; force, 5
Rain, no
Direction of surface current, S. S. W. force, 1 1/2 knots
" of bottom .. : force, ..
Name of vessel, U. S. Fish Comm.
Service to which attached, Fish Comm.
Name and rank of commanding officer, R. M. Davenport
Name and position of observer, J. H. Miller
Master

NOTES RELATING TO STATION NO.

93

Few Crayfish *Aprocha*
neovittata.

Few Young lady crab.

" *Callinectes* *helleri*.

Tritia with *E. longicauda*

Few *Callinectes* *helleri*.

" *gymna* *smithi*

Smithi.

L. heros *smithi* *smithi*

L. lithonia,

Tellina.

1 *Callinectes* *helleri* *smithi*

Young *Callinectes* *helleri*

Callinectes *helleri*

Callinectes *helleri*

L. heros *smithi* *smithi* by 1 *Callinectes*

Shrimp *Callinectes*

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. *94 - 4022*
 Date, *Nov. 15 - 98*
 Time of day, *10.40* : of tide, *2^h 40^m of ebb*
 Locality, *Western Passage of Honolulu, B.*
 Exact position, *White Rock Light*
S x W 3/4, *50* mile mag
 Depth, *9 3/4 fathoms*
 Nature of bottom, *Hard shell*
 Dredging instrument used, *Dredge*
 Direction of drift, *S. S. W.* : distance, *1/4 mile*
 Temperature of air, *42° F.* therm. No., *7997*
 " of surface water, " "
 " at depth of fathoms, " "
 " at bottom, " "
 Density at surface, *1.023* temp., *11.5°*
 " at depth of fathoms, " "
 " at bottom, *1.023* .. *11.5°*
 Number of salinometer, *7104*
 Barometer reading, *30.12*
 State of sky, *Blue*
 Direction of wind, *N. W.* ; force, *5*
 Rain, *No*
 Direction of surface current, *P. A. W.* ; force, *1 knot*
 " of bottom " : force, "
 Name of vessel, *U.S.F.C.S. Fish Hawk*
 Service to which attached, *Fish Commission*
 Name and rank of commanding officer, *Lt. Comdr.*
R. B. Carpenter
 Name and position of observer, *J. H. Miller*
Honolulu

NOTES RELATING TO STATION NO. 946

Shelly - very light sand
Thin small, smooth shells
Fritia. Crinoid, few small
Young Macula.
Cancer immutabilis
L. Tricardium with L. Longus
Euscalpinus, L. leucon
Fritia, Comacina,
Broken Mytilus
Constrata? / ? , Bryozoa
Scapharca shells.
Fusus white? /

6023

643

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No.

95 — 2023

Date,

Nov. 15 - 98

Time of day,

10.55

of tide,

2 $\frac{1}{2}$ 5.50 g. alt.

Locality,

Near Whale Rock Light.

Exact position,

Whale Rock Light.

Depth,

10 fathoms

Nature of bottom,

Hard shell

Dredging instrument used,

Dredge

Direction of drift,

S. W. 4/5 S.

distance,

3/8 mile

Temperature of air,

44° Fahr

therm. No.

7277

"

of surface water,

"

"

at depth of fathoms,

"

"

at bottom,

"

Density at surface,

1.023

temp.,

11.2°

" at depth of

fathoms,

"

" at bottom,

1.023 +

11.8°

Number of salinometer,

7100

Barometer reading,

30.13

State of sky,

B. C.

Direction of wind,

N. W.

; force,

5

Rain,

no -

Direction of surface current

S. E. M.

; force,

1 knot

" of bottom

; force

Name of vessel,

U. S. F. C. Fish Hawk

Service to which attached,

Fish Com.

Name and rank of commanding officer,

R. B. Thompson

Name and position of observer,

John P. ...

NOTES RELATING TO STATION NO.

95

1 maroon star. 1/2
1/2 L. truncata blue
Fritia
Maestra.

L. truncata } sampled by
Fritia } C. Longman
Hara virens }
Shells of Maestra, Sp. L. L.
Fritia, L. truncata, Anomura
C. formicaria.
1 or 2 small worms (?)

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

6054

Station No. 96 — ~~2020~~

Date, Nov. 15 - 98

Time of day, 11, 10 ^{am} : of tide, $3\frac{1}{2}$ 10th of ebb

Locality, near Noman's Cove Pier

Exact position, Whale Rock Light

Depth, N.E. x E $\frac{1}{2}$ E — 1 mile mag.
7 $\frac{3}{4}$ fathoms

Nature of bottom, Sand

Dredging instrument used, 7 foot beam trawl

Direction of drift, S.W. ; distance, $\frac{3}{8}$ mile

Temperature of air, 43 therm. No., 7377

" of surface water, ..

" at depth of fathoms, ..

" at bottom, ..

Density at surface, 1.0224 temp., 11.7° C

" at depth of fathoms, ..

" at bottom, 1.0234 .. 11.8° C

Number of salinometer, 7104

Barometer reading, 29.73

State of sky, B. C.

Direction of wind, N.E. ; force, 5

Rain, no

Direction of surface current, S.O.W. ; force, $\frac{1}{4}$ knot

" of bottom " ; force, ..

Name of vessel, U. S. F. C. S. Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, Lt. Comdr
R. M. Carpenter

Name and position of observer, J. H. McGowan

NOTES RELATING TO STATION NO.

96

Few Crayfish
or Rana bosman
1 small herring
Eel grass, a little
The E. longicauda in water
Hydrilla
Diploma, a little
Red algae
1 "golden shell"
1 Canem imbricata.

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 97 — 2525
 Date, Nov. 15, 98
 Time of day, 11.20 : of tide, 3 $\frac{1}{2}$ 20 m of ebb
 Locality, Near Nanasett Pier,
 Exact position, Whale Rock Light,
 N. E $\frac{1}{2}$ E 1.75 mile N. W.
 Depth, 10 fathoms
 Nature of bottom, sand.
 Dredging instrument used, 7 ft beam trawl
 Direction of drift, S. $3\frac{1}{4}$ E ; distance, $\frac{1}{2}$ mile
 Temperature of air, 52 therm. No., 7397
 " of surface water, "
 " at depth of fathoms, "
 " at bottom, "
 Density at surface, 1.0224 temp., 11.3° C
 " at depth of fathoms, "
 " at bottom, 1.0234 .. 12.1° C
 Number of salinometer, 30.7104
 Barometer reading, 30.72
 State of sky, blue
 Direction of wind, N. W. ; force, 5
 Rain, no
 Direction of surface current, S. S. W. ; force, $\frac{1}{2}$ knot
 " of bottom " ; force, "
 Name of vessel, U. S. F. C. S. Fish Hawk
 Service to which attached, Fish Commission
 Name and rank of commanding officer, Lt. Comdr.
 R. G. Carpenter, USN
 Name and position of observer, J. H. Brown

NOTES RELATING TO STATION NO.

97

or *Rana boylei*

1. *Agonostomus* *huxleyi*

1. *Large summer flounder*

✓ *Protonotus*

Perca of *Kelp* with *obtus*

Yonah *silv* *fish* (?)

Perca of *decapoda* *hydrop*

See *hanger*

1. *clutch* of *multitrans*

Trichia

1. *Is* *longipes*

1. *pipe* *fish*.

6026

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 98 2026
Date, Nov. 15 - 98
Time of day, 11.35 am ; of tide, 3.5 3.50m gath
Locality, Off Pt. Judith Neck.
Exact position, Pt. Judith Light
S. N. x W. 3.37 mile mag
Depth, 10 fathoms
Nature of bottom, Hard
Dredging instrument used, Hand Trawl
Direction of drift, S. S. W. ; distance, 1/4 mile
Temperature of air, 44 therm. No., 7-77
" of surface water, ..
" at depth of .. fathoms, ..
" at bottom, ..
Density at surface, 1.023 temp., 11.6°
" at depth of .. fathoms, ..
" at bottom, 1.022 .. 12.8°
Number of salinometer, 7104
Barometer reading, 30.12
State of sky, B, C
Direction of wind, N. W. ; force, 5
Rain, No
Direction of surface current, S. S. W. ; force, 1/2 knot
" of bottom, .. ; force, ..
Name of vessel, U.S.C.S. Fish Hawk
Service to which attached, Fish Commission
Name and rank of commanding officer, St. Comdr
R. M. Sampson, Lt. Comdr
Name and position of observer, J. M. ...
PL

NOTES RELATING TO STATION NO. 98

1 force fish

1 Eimacii

1 18 spine sculpin

1 white flounder

1 silver hake (?)

Driftwood

Few sand dollars

" Crabs

E. longicauda in L. truncata +
tibia shells

1 Purpur

1 Fusus shell

Little Kelp

1 ~~Cyrtus dentata~~ (shell of)
~~Nassa viridis (?)~~

6027 RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 99 — 2027
 Date, Nov. 15-98.
 Time of day, 11.45 ; of tide, $3\frac{3}{4}$ h of ebb.
 Locality, off Pt. Judith Neck
 Exact position, Pt. Judith Light
 S. W. $\frac{1}{2}$ N. 2.75 miles mag
 Depth, $10\frac{1}{2}$ fathoms
 Nature of bottom, 11 sand
 Dredging instrument used, 7 fms beam trawl
 Direction of drift, S. W. ; distance, $\frac{1}{4}$ mile
 Temperature of air, 44° Fahr therm. No., 7397
 " of surface water, "
 " at depth of fathoms, "
 " at bottom, "
 Density at surface, 1.023 temp., 11.6° C
 " at depth of fathoms, "
 " at bottom, 1.023 " 12.5° C
 Number of salinometer, 7104
 Barometer reading, 30.12
 State of sky, Blue
 Direction of wind, N. W. ; force, 5
 Rain, no
 Direction of surface current, S. S. W. ; force, $\frac{1}{2}$ knot
 " of bottom " ; force,
 Name of vessel, U. S. F. C. S. Fish Hawk
 Service to which attached, Fish Commission
 Name and rank of commanding officer, Lt. Comdr
 R. L. Sampson
 Name and position of observer, Kom.
 R. W.

NOTES RELATING TO STATION NO. 99

- Few sand dollars
 2 square bases
 1 Forster's Star 5 in
 Few Crinoids
 " Mytilus shells,
 7 Astarte Castanea
 Few Tritia cc. by E. longicauda
~~Diplasia~~ = Hydrallmania
 1 small white holothuria
 1 Yung naevis
 1 Cylos dentata shell of
 1 Nassa virex. (?)

In these notes the hydroid usually
 put down as Diplasia is prob-
 ably Hydrallmania falcata
L. tenebrosa should be Lacuna Vincta
Nassa virex? is Tritia tristata

100
 6028

 100

Laysan 6 1/2
 Bottom
 7 furrows
 Temp. 45

Ben. surface 1023 Temp 11.5°
 .. Bottom 1023 .. 14.00

Bar 30.08

3 Enmain
 8 square hole
 1 other hole 7.1
 4 1 + 2 spm. sculp
 1 various faun
 Ind sand dollar
 E. longimanus in bottom x
 L. littorea